

ABSTRACT OF THE DISCLOSURE

[0059] A process and apparatus for separating polymer solids, hydrocarbon fluids, and purge gas in an intermediate pressure zone and a purge zone. The purge gas in the purge zone is used to remove hydrocarbon fluids from the polymer solids, and a stream containing the purge gas and hydrocarbons is passed to a hydrocarbon/purge gas recovery zone. High-purity purge gas from the recovery zone is efficiently used by passing a portion back to the purge zone and another portion to an extruder feed zone. Hydrocarbon fluids separated from polymer solids in the intermediate pressure zone and in the hydrocarbon/purge gas recovery zone are liquefied and passed to a recycle zone, and the hydrocarbons (typically liquid diluent and/or unreacted monomer) are recycled to the reactor without fractionation.